

NPCC 2003 Year in Review

Northeast Power Coordinating Council
 1515 Broadway, New York, New York 10036-8901 TELEPHONE: (212) 840-1070 FAX: (212) 302-2782

NPCC Summary:

NPCC is the international Regional Reliability Council responsible for coordinating bulk power system reliability in New York and the six New England states and the Ontario, Quebec, and Maritime Provinces of Canada.

- About NPCC

www.npcc.org/about_npcc.asp

- NPCC Open Process

www.npcc.org/Open_Process.html

- NPCC Criteria

www.npcc.org/CriteriaGuidesProcedures.html

- NPCC Reliability Standards Tracking

www.npcc.org/PublicFiles/NercReliabilityStandardsTracking.pdf

Inside this issue:

Reliability Criteria Development	2
NPCC Reliability Compliance and Enforcement	2
Wide-Area Collaborative Planning	2
NPCC Cyber and Physical Security	3
Reliability Through Market Mechanisms	3
Reliable Operations, Planning and Design	3
NPCC 2003 General Meeting	4

Blackout 2003

On August 14, at approximately 4:10 p.m. a severe and widespread disruption of the bulk power grid within NPCC occurred as a result of events in northern Ohio. In the aftermath of the blackout, NPCC supported emergency operations during system restoration.

In addition, NPCC provided a coordinated approach to the investigative efforts by establishing the Blackout Investigative Team, consisting of representatives from each of the NPCC affected Control Areas, the Chairs of NPCC Committees and Task Forces, and regulatory representatives.

NPCC also formed the Major System Disturbance Task Force, supplementing NPCC's SS-38 Working Group with representatives from other regions to conduct dynamic simulation analyses of the events.

NPCC coordinated development of a detailed regional sequence of events and conducted studies which verified the power system in the Northeast was operating within prescribed limits prior to and following the initial contingencies. NPCC also conducted "what if" scenario assessments included in the U.S. - Canada Power System Outage Task Force "Interim Report."

The NPCC Inter-Control Area Restoration Coordination Work-



ing Group was charged with developing a report on the restoration of the NPCC Areas and providing documentation with respect to Control Area compliance, demonstrating that the ISOs acted in accordance with the criteria during their restorations.

Comprehensive Reliability Assessments

In 2003, NPCC conducted comprehensive Area Reliability Reviews of the Ontario, New England, New York, and Maritimes Areas. These reviews focused on the Areas' ability to meet NPCC resource adequacy and transmission criteria through 2007.

Gas/electric system interdependences having a potential for adverse electric reliability impacts within NPCC were reviewed and provided to the NERC Gas/Electric Interdependency Task Force as part of their on-going analysis.

NPCC's perspective regarding areas where improved coordination between the gas/electric industries could enhance the reliability of both was presented at the NECPUC 2003 Annual Meeting and at the NPCC 2003 General Meeting.

Reliability Criteria Development

NPCC continued to utilize a design-basis approach to reliability criteria development, assuring that the system is operated consistent with its design, and addressed operation of markets within the NPCC Region, and resolved fundamental technical and policy issues in 2003.

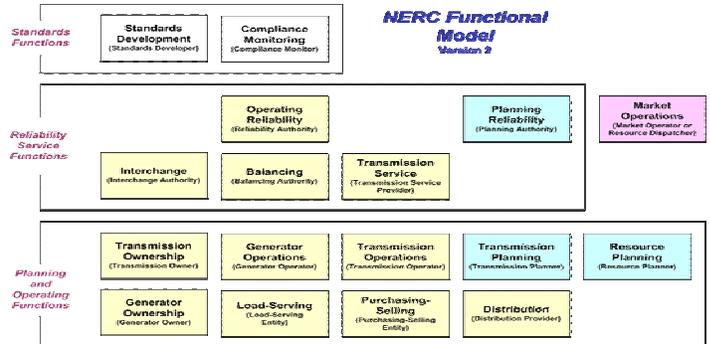
Reviews of the NPCC Basic Criteria (Document A-2) and the Reliability Compliance and Enforcement Program (Document A-8) were initiated.

NPCC led Northeast participation in the NERC Reliability Standards Process and Functional Model review. Members were provided with notifications, tracking, participation solicitations, and forums for subject-matter industry experts.

NPCC coordinated reviews of the draft NERC Standard Authorization Requests and draft Reliability Standards in the areas of balancing resources and demand, coordinating interchange, determining facility

ratings, system operating limits and transfer capability.

Consensus regional balloting positions and comments for votes on proposed NERC Standards were developed.



NPCC Reliability Compliance and Enforcement

The New England Area and Quebec Area Compliance Reviews were completed achieving a 50% and 33% increase, respectively, in the number of requirements audited over the previous review.

Certification of all NPCC Control Areas for compliance with NPCC Control Area Certification requirements was completed.

Workshops for the 2003 NPCC

compliance program and development of NERC Reliability Standards were conducted in Boston and Toronto.

A data base of Key Facilities required to establish a basic minimum power system following a system blackout was developed. Field testing of compliance monitoring requirements for critical components associated with Key Facilities for the

Area System Restoration Plan was instituted.

A survey of the performance of those Key Facilities following the events of August 14th was compiled for review by the NPCC Inter-Control Area Restoration Working Group and the Compliance Monitoring and Assessment Subcommittee.

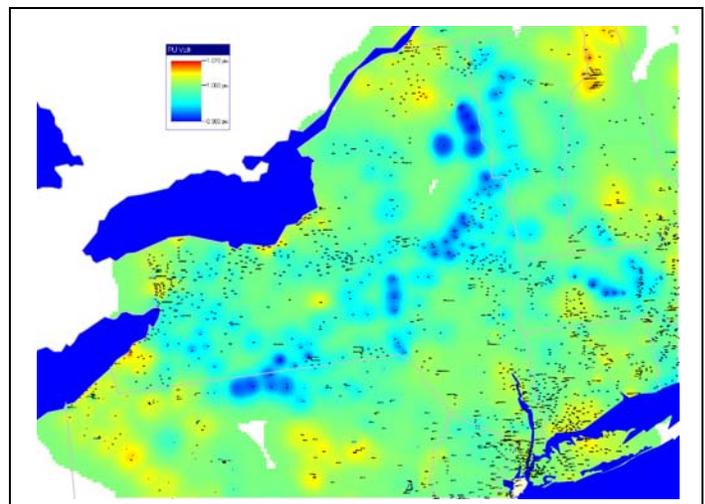
All NPCC Control Areas met NPCC Control Area Certification requirements in 2003.

Wide-Area Collaborative Planning

Phase I of NPCC's Collaborative Planning Initiative Study identified approximately 50 transmission bottlenecks for the 2006 study year and established a process to prioritize those bottlenecks for subsequent assessment.

Through NPCC's Regional Plan-

ning Forum's Wide-Area analyses, opportunities to increase the size of the maximum, sustainable contingency within NPCC for today's system through the 2005/06 time frame were identified. A summary report can be found on the NPCC web site under the "Regional Planning Forum" link.



An illustration of the Regional Planning Forum's post-contingency voltage analysis is shown above. The range of voltage pictured is from 90% (shown as blue) to 107% (shown as red) of nominal rating (shown as green).

NPCC Cyber and Physical Security

The former NPCC Energy Management Technology Task Force was changed to the Task Force on Infrastructure Security and Technology (TFIST) to better support cyber and physical security coordination within the electric infrastructure in the Northeast.

NPCC provided coordination between TFIST's efforts and the NERC Critical Infrastructure Protection Advisory Group (CIPAG).

A NPCC reporting template was created to monitor compliance with the NERC Urgent Action Cyber Security Standard, which established minimum security requirements for the electric industry.

NPCC coordinated development of the TFIST report on energy management systems performance during the August 14th Blackout and initiated a draft "white paper" on security guidelines for power system opera-

tions to address member systems' security issues.



Reliability Through Market Mechanisms

NPCC promoted utilization of an Open Scheduling System (OSS) to eliminate seams within the Northeast and inter-regionally through automated transaction checkout between adjacent markets.

NPCC led development of the Electronic Scheduling Collaborative (ESC) business cases and the OASIS Standards Collabora-

tive (OSC) transition plan to transfer responsibility for an OASIS Phase II integrated scheduling tool that will support both physical and financial based markets to the North American Energy Standards Board (NAESB).

The interregional efforts of PJM, NYISO, and ISO-NE to minimize seams and standardize the

provision for sufficient supply and demand resources were facilitated to maintain resource adequacy in the Northeast.

NPCC coordinated response to the initial recommendations presented by the New England Demand Response Initiative (NEDRI) in order that NPCC Operating Reserve Criteria requirements were met.

NPCC promoted the use of OSS to provide automated transaction checkout and enhance reliability within the Northeast and adjacent markets.

Reliable Operations, Planning and Design

NPCC conducted comprehensive Region-wide operational security and probabilistic reliability assessments of generation and transmission for 2003 Summer.

These regional assessments confirmed local reliability concerns in southwest Connecticut and summarized supply adequacy issues for New York City and Long Island.

In 2003, multiple pre-emergency capacity conference calls between NPCC Control Areas and neighboring regions were conducted. These calls were instrumental in maintaining adequate supply through peak load periods. Numerous emergency calls were conducted in the aftermath of the August 14th Blackout to ensure adequate capacity while the system was in a fragile state.



NPCC Task Force Chairs, pictured, left to right: James Ingleson, System Protection; Bonnie Bushnell, Infrastructure Security & Technology; Larry Eng, Coordination of Planning; Ron Halsey, Compliance Monitoring and Assessment Subcommittee; Steve Corey, System Studies; and Don Gates, Coordination of Operation.



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NPCC utilizes a design-basis approach in the development of regionally specific criteria, consistent with NERC broad-based standards, to promote the reliable and efficient operation of the international, interconnected bulk power systems in Northeastern North America. NPCC coordinates system planning, design and operations and assesses and enforces mandatory compliance with regional reliability criteria.

NPCC, to the extent possible, facilitates attainment of fair and effective competitive electric markets, and enhances the use of market mechanisms to achieve reliability.

Visit NPCC on the web at:
www.npcc.org

NPCC 2003 General Meeting

NPCC's 2003 General Meeting in Halifax, Nova Scotia focused on "Planning a Reliable Future Post Blackout 2003." The event attracted over 100 individuals, including media, industry, governmental and regulatory representatives. Mr. David McD. Mann (pictured right), President and Chief Executive Office of Emera, Inc. was the key note speaker.

An overview of the events leading to the August 14th Blackout was presented, along with sessions on current Northeast reliability initiatives, reliable market integration, and critical infrastructure security.

Mr. R. A. (Sandy) MacMullin, Director Nova Scotia Department of Energy provided an informative overview of Nova Scotia's future energy outlook.

Mr. Charles J. Durkin Jr., Chairman of NPCC, remarked "NPCC leads the industry with its strong programmatic approach to reliability assurance. With regard to actions that can be taken to reduce the potential for future blackouts, NPCC has indicated its support for enactment of U.S. electric reliability legislation and its preference for language that expressly acknowledges the necessity for more stringent criteria to ad-

dress regional and local reliability needs."

